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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/690,965

10/29/2003

Takashi Iwanami

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26021

7590

06/01/2006

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EXAMINER

NGUYEN, SANG H

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/690,965

Applicant(s)

IWANAMI ET AL.

Examiner

Sang Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11, 12, 19 and 20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 13-17 is/are allowed.
- 6) ☒ Claim(s) 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/29/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I (claims 1-10 and 13-18) in the reply filed on 03/13/06 is acknowledged.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 10/29/03 has been entered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

Figures 17-20 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews (U.S. Patent No. 6,424,412) in view of Chaney (U.S. Patent No. 4,996,416).**

**Regarding claim 18;** Matthews discloses an optical characteristic measurement device comprising:

an optical path separation element (considered to be a beam splitter [98 of figure 4) to which a parallel laser beam(34 of figure 4 and col.9 lines 3-6, 9-13, and 24-35) is made incident through a beam pick-off device (36 of figure 4, see abstract such as a pick-off collimating lens or beam splitter);

a first face-type photo-detector (70 of figure 1) that receives the laser beam transmitted (100 of figure 4) through the optical path separation element (98 of figure 4);  
and

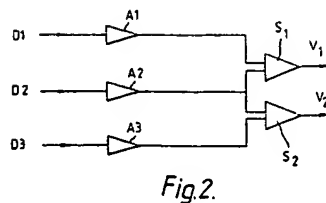
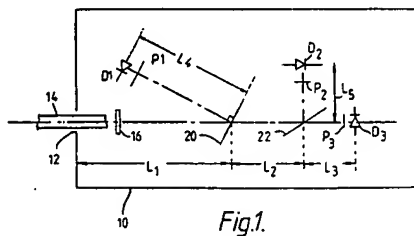
a second face-type photo-detector (72 of figure 4) that receives the laser beam reflected (102 of figure 4) by the optical path separation element (98 of figure 4),

wherein a length of an optical path from the beam pick-off device to the first face-type photo-detector (predetermined distance from the beam pick-off device [36 of figure 4] to a beam splitter [98 of figure 4] + x distance from beam splitter [98 of figure 4] to first detector [70 of figure 4]) is set to be different (x distance is different from 2x

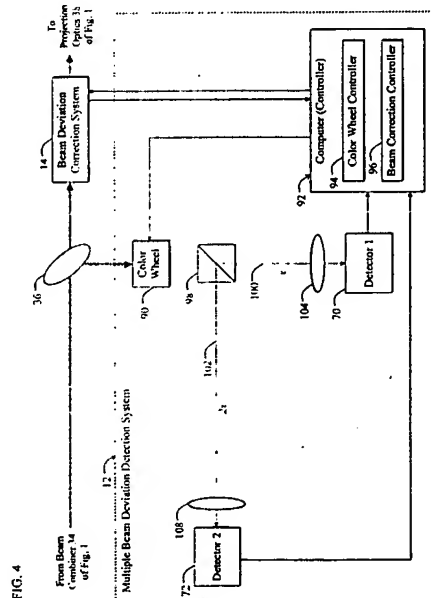
distance, see col. Col.8 lines 60-65) from a length of an optical path from the beam pick-off device to the second face-type photo-detector (predetermined distance from the beam pick-off device [36 of figure 4] to a beam splitter [98 of figure 4] + 2x distance from beam splitter [98 of figure 4] to second detector [72 of figure 4]). See figures 1-8.

Matthews discloses all of features of claimed invention except for the optical path from an aperture to the first face type photodetector and second face type photodetector. However, Chaney teaches that it is known in the art to provide optical detection device comprising the optical path from an aperture (12 of figure 1) to a beam splitter (22 of figure 1) and first detector (D3 of figure 1, i.e.,  $L_1 + L_2 + L_3$ ) and second detector (D2 of figure 1, i.e.,  $L_1 + L_2 + L_5$ ). See figures 1-2.

U.S. Patent Feb. 26, 1991 Sheet 1 of 1 4,996,416



U.S. Patent Jul. 23, 2002 Sheet 3 of 7 US 6,424,412 B1



Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine optical measurement device of Matthews with the optical path from an aperture to the first face type photodetector and second face type photodetector as taught by Chaney for the purpose of reducing noise in simple and inexpensive manner by ensuring the all of the detectors for light passing through the aperture.

***Allowable Subject Matter***

Claims 1-10 and 13-17 are allowed.

The following is an examiner's statement of reasons for allowance:

As to independent claim 1 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails discloses or render obvious an optical characteristic measurement device comprising all the specific elements with the specific combination including of an incident angle of the laser beam and a position of a center of gravity of a distribution of a light quantity of the laser beam at the aperture are measured based on a distance from a reference position to a light receiving center position on the first face-type photo-detector, a distance from a reference position to a light receiving center position on the second face-type photo-detector, the length of the optical path from the aperture to the first face-type photo-detector, and the length of the optical path from the aperture to the second face-type photo-detector in combination with the rest of the limitation of claim 1.

As to independent claim 13 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails discloses or render

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obvious an optical characteristic measurement device comprising all the specific elements with the specific combination including of an incident angle of the parallel light beam to the optical path separation element is measured based on a distance from a reference position to a light receiving center position on the second face-type photo-detector and a length of an optical path from the convergent lens to the second face-type photo-detector, and a position of a center of gravity of distribution of a light quantity at the aperture is measured based on the incident angle, the distance from the reference position to the light receiving center position on the first face-type photo-detector, and the length of the optical paths from the aperture to the first face-type photo-detector in combination with the rest of the limitation of claim 13.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Corbalis et al (6819815) discloses method and apparatus for indirect adjusting of optical switch; Sueyoshi (5585922) discloses dual interferometer apparatus; Kubo et al (5164791) discloses minute displacement detector using optical interferometry; Imai et al (4762985) disclose auto-focus apparatus applied to image reading apparatus; Barger (4662750) discloses angle sensitive interferometer; Siebert

(4309108) discloses analyzer for coherent radiation; Sheldon (3594583) discloses electro-optical devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 21, 2006

  
Sang Nguyen  
Patent Examiner  
Art Unit 2877